What is claimed is:

1. An actuator assembly comprising:

a first attraction only actuator including a first core, a conductor secured to the first core, and a second core spaced apart a component gap from the first core; and

a control system that directs current to the conductor to attract the second core to the first core, wherein the amount of current directed to the conductor is calculated without measuring the component gap.

2. The actuator assembly of claim 1 wherein the control system utilized the formula $I= \sqrt{F}$ to calculate the amount of current directed to the conductor, wherein I is the current and F is the force to be generated by the first actuator.

3. The actuator assembly of claim 1 wherein the control system directs current to the conductor at a plurality of time steps, including t_1, t_2, and t_3, and t_4.

4. The actuator assembly of claim 1 wherein the control system calculates a calculated gap between the cores at least one of t_1, t_2, and t_3, and wherein the control system uses the calculated gap to calculate the current that should be directed to the conductor at t_4.

5. The actuator assembly of claim 1 wherein the control system calculates a calculated gap between the cores at least two of t_1, t_2, and t_3, and wherein the control system uses the calculated gaps to calculate the current that should be directed to the conductor at t_4.

6. The actuator assembly of claim 1 wherein the control system adjusts the current to the conductor to create an artificial force that dampens oscillations.

7. The actuator assembly of claim 1 wherein the control system adjusts the current to the conductor to create an artificial force that provides stiffness compensation.

8. The actuator assembly of claim 1 wherein the first core is somewhat "C" shaped.

9. The actuator assembly of claim 1 wherein the first core is somewhat "E" shaped.

10. The actuator assembly of claim 1 further comprising a second attraction only actuator including a first core, and a conductor secured to the first core.

11. The stage assembly of claim 1 wherein the first actuator is an electromagnetic actuator.

12. A apparatus including the actuator assembly of claim 1.

13. A polishing apparatus including a polishing pad and the actuator assembly of claim 1 utilized to adjust the position of the pad.

14. A method for making a device that includes the steps of providing a substrate and polishing the substrate with the apparatus according to claim 13.

15. A method for making a wafer that includes the steps of providing a substrate and polishing the substrate with the apparatus according to claim 13.

16. A method for positioning a stage, the method comprising the steps of:

coupling a first attraction only actuator to the stage, the first actuator including a first core, a conductor secured to the first core, and a second core spaced apart a component gap from the first core; and

directing current with a control system to the conductor to attract the second core to the first core, wherein the amount of current directed to the conductor is calculated without measuring the component gap.

17. The method of claim 16 wherein the control system uses the formula $I = \sqrt{F}$ to calculate the amount of current directed to the conductor, wherein I is the current and F is the force to be generated by the actuator combination.

18. The method of claim 16 wherein the control system directs current to the conductor at a plurality of time steps, including t_1, t_2, and t_3, and t_4.

19. The method of claim 16 wherein the control system calculates a calculated gap between the cores at least one of t_1, t_2, and t_3, and wherein the control system uses the calculated gap to calculate the current that should be directed to the conductor at t_4.

20. The method of claim 16 wherein the control system calculates a calculated gap between the cores at least two of t_1, t_2, and t_3, and wherein the control system uses the calculated gaps to calculate the current that should be directed to the conductor at t_4.

21. The method of claim 16 wherein the control system adjusts the current to the conductor to create an artificial force that dampens oscillations.

22. The method of claim 16 wherein the control system adjusts the current to the conductor to create an artificial force that provides stiffness compensation.

23. The method of claim 16 wherein the first core is somewhat "C" shaped.

24. The method of claim 16 wherein the first core is somewhat "E" shaped.

25. A method for making an apparatus for polishing a wafer, the method comprising the steps of:

providing a pad;

securing the pad to a stage; and

moving the stage by the method of claim 16.

26. A method for making an object including at least a polishing process, wherein the polishing process utilizes the apparatus made by the method of claim 25.

27. A method of making a wafer including the steps of providing a substrate and utilizing the apparatus made by the method of claim 23 to polish the substrate.